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Cover

This month's cover art by Mark Tapia symbolizes the success of the installation of two IBM 3033 Model N8s at UTCS.

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3033 MODEL N8 INSTALLATION - REVIEW

The June *COMPUTERNEWS* reported UTCS plans for implementation of two IBM 3033 Model N8 computer systems to replace the existing 3033-U06, 3031-0O6 and S/370-165-II systems. Accompanying the article was a schedule announcing times of the various moves up to July 7, 1980.

I am pleased to report that these moves, installations and interruptions have taken place on time and, as closely as possible, with minimal disruption to our user community. At present, both the two 3033N8s and the remaining S/370-165-II system are operating satisfactorily, with acceptable reliability.

Some problems and interruptions have occurred since the two switchovers. These have been resultant problems from the extensive recabling efforts and extra load on utilities rather than from any abnormal level of downtime in the hardware components. These problems have been resolved since completion of cutovers. We now look forward to a highly stable environment as activity returns to normal in the machine room.

The one remaining task is the conversion of ATS, APL and Class E from the S/370-165-II to the 3033s. This is described in the following articles. Following the conversion on the weekend of August 9/10, 1980, the S/370-165-II will be removed from service.

Derry Cox

UTCS CONVERTS TO MVS SHARP APL

On Monday, August 11, 1980 the MVS Sharp APL system will become the UTCS APL production system.

The final stage of the implementation process will begin on Friday, August 8 at 10:00 p.m. at which time normal APL production will be halted while user workspaces and files are converted to the new system format. This process will involve the entire weekend. Normal production on the new system is scheduled for 8:00 a.m., Monday, August 11.

There will be no rate increase for use of the new system. UTCS is performing considerable benchmarking to ensure that users of the new system receive equivalent service for equivalent costs. At the time of this writing, the exact rate schedule for work done on the new system had not been established. Within the MVS Sharp APL system, the standard measure of Central Processing Unit usage is the *CPU unit.* A CPU unit is equivalent to 0.008 CPU seconds on the IBM 370/165, on which APL runs now, or 0.004 CPU seconds on the 3033 Model N8, the machine on which MVS APL will run beginning August 11. This CPU unit is often used as a standard measure of processing capability for IBM MVS operating environments. The adoption of the CPU unit provides a means of more easily comparing costs between machines since the CPU unit represents the capacity to perform a constant amount of work. Because the amount of work that is performed by a CPU unit remains constant, future changes of machinery will not change the charging rate.

UTCS has worked to provide a system which will *functionally* replace the MVT APL system. Initially not all new features of MVS Sharp APL will be available. However, UTCS will provide the basic MVS APL system and file and work space conversion as well as a conversion guide

continued...

MVS SHARP APL continued

and conversion seminars. The guide will be mailed to all APL Service Access Code (SAC) holders and covers:

- Sign on procedures
- Workspace and file compatibility
- Altered or removed system commands
- New system commands
- Preferred forms on the MVS Sharp APL system
- Syntax differences
- The SUBMIT function
- The FILEPRINT UTILITY
- The XFR utility

There will be a series of seminars designed exclusively to help current APL programmers who may be having unique problems with or specific questions about the conversion process. The first of these will be on August 19, 20 and 21, from 2:00 p.m. to 4:00 p.m. in Room 2104 of the Sidney Smith Building. In these seminars problems will be dealt with on a first-come-first-served basis with the objective of getting the user working easily in the new MVS APL environment.

These initial conversion seminars will eventually be augmented by courses in the new features of Sharp APL to be publicized by UTCS when they are completed. UTCS will gladly consider special requests from large or small groups of users for specific courses and/or assistance. Please contact your Computing Services Representive for information.

Herb Kugel

CLASS E SERVICE CHANGES

The July *COMPUTERNEWS* described some changes that would occur when Class E moved to the 3033 Model N8 computer from the S/370-165-II computer. This move will have taken place on August 5. Details about the new, enhanced Class E service follow.

Programs which executed successfully under the old Class E service execute successfully under the new Class E service *without modification*. The $15 minimum charge has been maintained and applies to peripheral device charges such as tape & disk mounts as well as CPU time and I/O usage. The rate schedule for the new Class E service has been designed so that the same amount of computing can be performed for the same cost.

The new Class E service does not make use of a special 'shared' disk pack and thus Class E users no longer incur higher than normal disk storage charges. It has *not* been necessary to rename or re-register any datasets that resided on the shared disk pack. The service factor applied to peripheral device charges has been reduced from 1.0 to 0.75. As well, total Class E job costs have been consolidated on the job trailer page.

Because Class E is now totally supported on the 3033 Model N8, software available to Class A, B and C jobs, including compilers, run-time libraries, math and stat packages, is available to Class E jobs. Thus it is no longer necessary to execute only FORTRAN-based load modules on Class E. Additionally, the full batch job submission and retrieval features of TSO, WYLBUR and the DEC 1090 are avilable on Class E.

The 3033 Model N8 has about twice the execution speed of the S/370-165-II when processing 'number crunching' jobs. Consequently the maximum CPU time permitted for a Class E job has been reduced to 2 hours. Because of the load on the 3033 Model N8, Class E jobs are executed approximately between the hours of 01:00 a.m. and 06:00 a.m. on weekdays. Execution is still on a first-in, first-out basis.

continued...

CLASS E SERVICE CHANGES continued

Memory limitations for Class E are unchanged. Up to 500K of memory is obtainable without a /*SETUP statement, up to 1000K with a /*SETUP statement. Up to 2 9-track tape drives and/or up to 2 7-track tape drives and/or up to 1 3330 disk drive and/or the paper tape reader are available to any Class E job.

Sections of USERBOOK pertaining to Class E are being updated and will be reissued shortly. If you have any questions concerning Class E please do not hesitate to contact your Computing Services Representative (CSR).

Bob Chambers

DSMAP RETURNS

After a long absence, DSMAP has been resurrected. When the transition was made from the MVT system to the MVS system in December 1978, DSMAP no longer supported the AUTH parameter although other functions continued to work. With the installation of the new 3033N8 processor on the academic system in June, problems with the DSMAP utility have been corrected.

The DSMAP utility is used to list information about online (and offline) disk datasets. The utility supports three types of requests:

1. information about a particular cataloged dataset. Included are the dataset name, space used, DCB parameters and member names (if the dataset is partitioned).
2. the same information, for an uncataloged dataset
3. a summary of all datasets registered to a particular access code. Included are the dataset name and total space used.

To invoke the DSMAP utility the following JCL should be used:

```
// EXEC DSMAP
//SYSIN DD *
 DSMAP control statement(s)
```

The DSMAP control statements may take one of three forms (each of which corresponds to the list above).

1. **DSN=dsname** where dsname is the full name of a cataloged dataset
2. **DSN=dsname,VOL=volume** where volume is the actual volume on which the uncataloged dataset resides
3. **AUTH=sac,password** where sac is the service access code. Password is the password associated with the service access code.

Examples:

To list attributes of the datasets USER.X.Y and USER.X.Z both of which are cataloged:

```
// EXEC DSMAP
//SYSIN DD *
  DSN=USER.X.Y
  DSN=USER.X.Z
```

To list datasets registered to SAC 1234 with password ABCD:

```
// EXEC DSMAP
//SYSIN DD *
  AUTH=1234,ABCD
```

To list the attributes of the dataset USER.PGMZ.LOAD on the 3330 offline pack UTC999:

```
/*SETUP UNIT=3330,VOL=EXT=UTC999
// EXEC DSMAP
//ANY DD UNIT=3330,VOL=SER=UTC999,
// DISP=OLD
//SYSIN DD *
   DSN=USER.PGMZ.LOAD,VOL=UTC999
```

Note: Since the AUTH feature invokes an authorized program, DSMAP requests cannot be initiated from TSO containing the AUTH control statements.

Mark Tapia

GOODBYE TO ATS

Users of ATS will be aware that ATMS will become our production system on August 11 and that ATS will be discontinued after many years of faithful and reliable service. Any user whose material has not been transferred according to his/her wishes should contact his Computing Services Representative (CSR). UTCS has maintained copies of all ATS material and, as stated, will copy this material to ATMS at a user's request. UTCS hopes that the move to ATMS will provide the entire University community with a service that is an acceptable and satisfactory replacement for the now retired ATS.

It should be emphasized that ATMS appears much like ATS when used from a dial-up or asynchronous terminal. The full benefits of the system are only realized when ATMS is used from a full screen or 3270-type terminal. We recognize that at the present time such terminals are principally in administrative users' hands. We hope to make such terminals available in public areas at an early date.

Terminals of the 3270-type which are currently attached to the academic computer may only select functions running on the academic machine. Likewise terminals attached to the administrative computer may only use services available on that machine. UTCS intends to provide facilities such that all 3270-type terminals are able to select services on either machine subject to the necessary passwords and security considerations. This will occur sometime in 1980 and we ask the indulgence of users who may be disadvantaged by the lack of this facility. Any user wishing to have a 3270-type terminal on a computer other than the one to which he is currently connected can only move the terminal if the controller from which the terminal is supported is also moved. Your CSR will be able to assist you in establishing the feasibility of such a move.

Frank Spitzer

TEXT SERVICES

UTCS recently announced the formation of a Text Services Group under my management. This group has been the principle force in the transfer of Text Processing Services from ATS to ATMS. Much credit for the work in this move goes to the newly-appointed supervisor of Text Services, John Bradley. Many users of UTCS services will know John who, until his recent promotion, worked as a programmer in our Applications Support Group. With that group he had responsibility for some text related products for WYLBUR and, in particular, for the Concordance programs, some of which he helped to develop. He therefore brings to Text Services considerable experience in various facets of text processing. We know his skills will enhance the operation of this new group.

Frank Spitzer

SAS 79.3 IS HERE

The 79.3 version of the Statistical Analysis System (SAS) is now the default version on both batch and TSO. It is a minor upgrade, including bug fixes and enhancements with some new formats available. There are new functions, especially for handling character variables. Date, time, data-time and bit string constants can now be used. ‘DO WHILE’ and ‘DO UNTIL’ statements have also been added.

Two changes are worth noting. First, the concatenation operator (||) will no longer automatically trim blanks from strings before concatenation. There is a new function called TRIM. Secondly, PROC SORT has two new options, EQUALS and NOEQUALS, which determine the way observations with the same BY values are handled. (The 76 User's Guide stated that order would be preserved; the 79 User's Guide does not.) Order is probably still preserved, but the introduction of these options should serve as a warning that it may not be so in future. It is best, therefore, to always specify extra BY variables if order within the new BY groups is to be preserved. (This does not significantly increase the cost of the sort.)

The SAS Supplemental Library User's Guide, 1980 Edition, lists 9 new procedures, including:

1. ALSCAL - multidimensional scaling
2. COXREGR - D.R.Cox's life-table regression model
3. LOGIST - logistic multiple regression
4. SURVTEST - test differences between survival curves

Complete information is contained in SAS Technical Report P-111, *SAS 79.3 and SAS 79.4: NEW FEATURES, CHANGES, AND ENHANCEMENTS* which is available in the Information Office. For more information, contact your Computing Services Representative (CSR).

John Roth

IMSL EDITION 7

Edition 7 of The International Mathematical and Statistical Library (IMSL) is now the default. Current users of Edition 7, who have been using LIBRARY=‘MATH.IMSLD7LB’ and LIBRARY=‘MATH.IMSLS7LB’, should now use LIBRARY=‘MATH.IMSLDLIB’ and LIBRARY=‘MATH.IMSLSLIB’ respectively. Thus, a sample job will now look like this:

```
// EXEC FORTGO,IX=APPL,
//   LIBRARY='MATH.IMSLDLIB'
//FORT.SYSIN DD *
      .
      FORTRAN program call a
        double precison IMSL
        routine

      .
/*
```

Edition 6 will be available for a limited time. Users with problems or questions should contact their Computing Services Representative (CSR).

John Roth

COMMUNICATIONS AND SMALL SYSTEMS NEWS

The CSS lab has recently released TABLIB for its GT40 and GT44 systems. TABLIB is short for TABlet LIBrary where tablet refers to the lab's digitizing tablets supplied by Summagraphics.

TABLIB allows a PDP-11 user, running the RT11 or RSX11M real-time operating system, to access the digitizing surface through a push-button aided sliding sensor which can return grid coordinates and the current status of any of the buttons. With this capability and others delivered by TABLIB, the customer may design graphic figures on the VT11 screen, move figures, use the screen/tablet combination as a menu device and collect point data at a rate of up to 200 points per second. Facilities exist which allow the user to do all his/her interactive dialog solely via the tablet without having to respond to the keyboard terminal during the session.

The lab is announcing graphics tools such as TABLIB and DECGRAPHICS-11 (last month's article) to promote program development and to give customers a taste of truly interactive graphics programming. For more information on TABLIB, DECGRAPHICS-11 and other CSS products contact your CSR or phone CSS at 978-3787.

Phil Girouard

STANFORD UNIVERSITY INTERNATIONAL SYMPOSIUM

The focus of the Stanford University Internation Symposium on Office Automation, held in March 1980, was on the human and organizational issues raised by the application of computer technology to the office. The nature of office automation, the form it should take and methods of achieving these goals were all examined.

James Driscoll of the Sloan School of Management at MIT and Thomas Lodahl of the Public Administration School at Cornell contrasted the traditional and innovative approaches to systems design of the office environment. The former, the systems analysis approach, was compared with more humanistic, customized methods of design. The systems analysis approach, by supporting a rigid definition of roles, a narrow division of labor and increasing control at management levels, fosters alienation of office workers and a need for increased supervision. The customized approach, centred around people rather than functions, provides maximum individual control within the context of the group. James Bair, of Bell Northern Research, reminded participants that the ideal office environment is currently difficult to achieve. Users' needs, characteristics and expectations are not being accommodated. They expect reliability, responsiveness and performance from computer technology and are not getting it. Characteristics like sensation, attention and cognition are often violated by existing systems. Needs for increased self esteem, for opportunities to socialize and for enhanced job security are not being met.

A systems design for the ideal office environment requires first talking to a user to determine what he does and wants. However, as Bair pointed out, there are problems with this method, i.e., the user's difficulty in evaluating his needs in terms of a technology which he does not totally understand. As well, the user's perceptions may not reflect his actual needs. As a result, an analysis of user needs should include analytical techniques like direct observation, diaries and questionnaires. These can then be used for work flow analysis and

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STANFORD UNIVERSITY continued

modelling. In addition, the designer should make use of studies of similar environments and of specialist help from other fields.

Symposium participants stressed that since user needs change over time, as the user becomes more sophisticated and sees potential for new applications, any office system must be amenable to change. To accommodate the office user, facilities should also be straightforward to operate. Accordingly, simplicity and flexibility must coexist within a single design.

Suggestions for the implementation of such a design were offered. The provision of incremental packages which could be added as required was one suggestion. Jacob Palme of the Swedish National Defense Research Institute described a prototype designed for the Swedish government which attempts to accomodate various types of users within a single system. For the novice or unsophisticated user, a computer-driven dialog is used, providing menus and questions. As the user becomes more experienced, he advances to a command-driven system and finally to writing his own programs.

Members of the symposium agreed that to increase cost-effectiveness office automation should involve more than word processing. The need to apply computer technology to managerial and professional activities was stressed. Strategies for doing so include the practice of computer messaging and conferencing, electronic mail, calendars and the development of managerial editing directly on a CRT rather than on printed copy.

Many participants agreed that followup is required to ensure acceptance and correct usage. Any office system should be tested and revised, possibly several times. Testing could be done by direct observation, interviews, questionnaires and automatically recorded systems use. Lodahl suggested employing a 'facilitator' to encourage usage and to assist with problems. As office systems are put into operation, they potentially lead to organizational changes such as revision of job descriptions. None of these aspects should be neglected for successful implementation of office automation.

Case studies, modelling and other analytic and design techniques are described in the papers presented at Stanford which are now available at the UTCS Information Office, Engineering Annex building, room 206.

Vicki Little

DEC GAMES ACCESS

UTCS has received numerous requests for a facility which would permit DEC-10 account administrators to disallow the use of the games area. In compliance with these requests, UTCS has added an option to allow or disallow access to the games library by DEC Service Access Codes (SACs). Effective August 15th, a DEC SAC will not be allowed access to games unless specifically requested by the account administrator. If you currently administer any DEC SACs and want them to have access to games, please contact the accounting office in room 206 of the Engineering Annex building (978-8703).

Marg Doherty

NEW DEC-10 PROGRAMS

We have recently acquired two new programs that may be of general interest to DEC-10 users. Neither is supported by UTCS. However many may find the utility of one or both is worth whatever risk is involved in using them.

The first is a version of QED, a text editor, which was written by a student in the Department of Computer Science, U of T. It is similar to most other QEDs and has support for full screen editing on VC404 terminals.

The second program, called DMS (Directory Management System), was given to UTCS by the University of Texas at Austin. DMS is a file directory utility. One of its features allows users to add comments to their disk file directories in a way that does not affect the way other programs or the system uses directories. For those who have difficulty in keeping track of what each file contains, DMS may be of help.

Both these programs have help files as well as more complete documentation in DOC:QED.DOC and DOC:DMS.DOC.

Corot Reason

USER SURVEY RESULTS

UTCS intended to present results of the spring general user survey in this month's issue. However due to a large number of responses, results were only tabulated at press time. The raw data is currently being analyzed and results and commentary will appear in our September newsletter.

Ralph Lombardi

ERRATA

The article in the July *COMPUTERNEWS* on the MVS Sharp APL test (page 7) contained two errors that APL users should note. The errors are both in the last paragraph on page 7:

``2⎕WΔ3" should be ``2⎕WS"

``system-queued variables" should be ``system variables"

We regret any confusion this may have caused.

Paul Shindman

RECENT ACQUISITIONS IN THE DCS LIBRARY

American Society for Information Science.
Proceedings of the annual meeting.
No. 16 (1979).

Association for Computing Machinery.
Proceedings of the National Conference,
Detroit, October 1979.
New York, ACM, 1979.

Auerbach Publishers.
Data base management.
Pennsauken, N.J. Auerbach, 1976-
1 v. (Auerbach information management
series.)

Auerbach Publishers.
Data processing management.
Philadelphia, Auerbach, 1973-
1 v. (Auerbach information management
series.)

Henderson, Peter.
Functional programming: application
and implementation.
Englewood Cliffs, N.J., Prentice-Hall
International, 1980.

Hofstadter, Douglas R.
Godel, Escher, Bach: an eternal
golden braid.
New York, Basic Books, 1979.

Hull, C. Hadlai and Nie, N.H.
SPSS update: new procedures and
facilities for releases 7 and 8.
New York, McGraw-Hill, 1979.

International Symposium on Programming,
4th, Paris, April 1980.
Proceedings of the fourth 'Colloque
International sur la Programmation,'
ed. by B. Robinet.
Berlin, Springer-Verlag, 1980.

Marcus, Mitchell P.
A theory of syntactic recognition
for natural language.
Cambridge, Mass., MIT Press, 1980.

Parlett, Beresford N.
The symetric eigenvalue problem.
Englewood Cliffs, N.J.,Prentice-Hall, 1980.

UTCS SYSTEMS

3033/N8A PROCESSOR

- located in Mclennan Physical Laboratories
- provides General Purpose Job Stream, High Speed Job Stream, TSO, WYLBUR
- 8 megabytes of memory
- MVS with JES2

SYSTEM/370 MODEL 165-II (until 8 August 1980)

- located in McLennan Physical Laboratories
- provides APL and ATS services
- 4 megabytes of memory
- OS/MVT with APL and ATS
- ATMS services
- APL services

3033/N8B PROCESSOR

- located in McLennan Physical Laboratories
- provides administrative IMS/VS DB/DC Batch and TSO services
- 8 megabytes of memory
- MVS with JES2

DECSYSTEM-10 Model 1090

- located in Sandford Fleming
- provides General Purpose Time-Sharing
- 256 K - 36 bit words of memory
- TOPS-10 operating system

COMMUNICATIONS & SMALL SYSTEMS (CSS)

- located in SF106
- DEC GT44 System with PDP-11/40 CPU
- 2 Z80 based microcomputers
- DEC GT40 System with PDP-11/05 CPU
- provides specialized graphics and interactive graphics
- provides on-line and real-time computing services, data acquisition and minicomputer services

UTCS DIRECTORY

POSITION	ROOM	CENTREX PHONE NUMBER
Director		
Dr. Doron Cohen	MP350	8948
Associate Directors		
Rein Mikkor	MP350	5058
Al Heyworth	MP350	4936
Faculty Liaison Officer		
Dr. Frank Spitzer	MP350	4619
Manager, Communications & Small Systems		
Eugene Siciunas	MP350	4967
Manager, Operations		
Derry Cox	MP350	7092
Manager, Systems		
Ward Beattie	MP350	3579
Manager, Academic Computing Services		
Ralph Lombardi	MP350	7130
Manager, Administrative Computing Services		
Walter Berndl	MP350	7331
Manager, Services Support		
Don Gibson	MP350	5568
Administrative Officer		
Suzan Fawcett	MP350	4428
Information & Accounting Office		
General Inquiries	EA206	4990
Accounts		
Aggie Stevens (U of T)	EA206	8702
Sylvia May (External)	EA206	7148
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Marg Doherty	EA209	3960
Access Codes		
Michelle Mule	EA206	8703
Supervisor, Communication Systems		
Walter Rosocha	SF105	7087
Programming Services		
Bill Lauriston	SG201	6877

continued...

UTCS DIRECTORY continued

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Text Entry		
Dale Wright	MP368	4565
Data Entry		
Zelda Anderson	HU405	5273
Keypunching		
Dale Wright	MP368	4565

Tape Librarians

Academic Services	ML368	7319
Administrative Services	ML368A	6693

Supervisor, Applications

Herb Kugel	SG304	7286

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Engineering Annex Terminal		
Sue Chong	EA201	4357
Program Advisors	EA103	4516
Time-Sharing Support		
TS Advisors	SG204	6465
Mark Tapia	SG204	7109
Erindale		
	2043	828-5311
Scarborough		
Bob Blackburn		284-3173
Arts and Science		
Bill Fehlner	SS2133	6509
New Physics		
Bob Chambers	MP1202	8823
External		
Ihor Prociuk	SG205	6875,6885

Supervisors, Operations

Paul Scarborough (IBM 3033N8A)	MP335	6220
Krishna Patnaik (DEC-1090 & CSS)	SF106	4086
Dave Wong (IBM 3033N8B)	MP335	6864

Key:

EA = Engineering Annex
SG = 49 St. George
HU = 215 Huron St.
MP = McLennan Physical Laboratories (New Physics)
SF = Sandford Fleming
SS = Sidney Smith

Job and System Status Queries

SYSTEM/3033,TSO	7373
ATS/APL	6234

Time-Sharing Services	Dial-Up
APL,ATMS	7200 Centrex 7201 Non Centrex
TSO,WYLBUR	6200 Centrex 6201 Non Centrex
DEC-10 Services	4224 Centrex 4244 Non Centrex
PHONE-IN ADVISING	6465

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TORONTO, CANADA